

Answer on Question #74712 – Math – Discrete Mathematics

Question

Let p , q , and r be the propositions

p : You get an A on the final exam.

q : You do every exercise in this book.

r : You get an A in this class.

Write these propositions using p , q , and r and logical connectives (including negations).

- a) You get an A in this class, but you do not do every exercise in this book.
- b) You get an A on the final, you do every exercise in this book, and you get an A in this class.
- c) To get an A in this class, it is necessary for you to get an A on the final.
- d) You get an A on the final, but you don't do every exercise in this book; nevertheless, you get an A in this class.
- e) Getting an A on the final and doing every exercise in this book is sufficient for getting an A in this class.
- f) You will get an A in this class if and only if you either do every exercise in this book or you get an A on the final.

Solution

- a) $r \wedge \neg q$
- b) $p \wedge q \wedge r$
- c) $r \rightarrow p$
- d) $p \wedge \neg q \wedge r$
- e) $(p \wedge q) \rightarrow r$
- f) $r \leftrightarrow (p \vee q)$